THE

SOUTHERN AGRICULTURIST.

NOVEMBER, 1829.

PART I.

ORIGINAL CORRESPONDENCE.

ART. I.—*On the Use and Manner of Choosing and Applying Salt Marsh Mud as a Manure; by the Hon.* WM. JOHNSON, *Judge of the U. S. Supreme Court.*

OBSERVATIONS BY THE EDITOR.

[OUR present number contains so much sound practical information on the culture of one of the best staples of our Southern country, that there is not a reader of our work engaged in raising it, who will not be benefited, and *that greatly*, by its perusal again and again.

We would refer such of our friends as have occasionally expressed to us their apprehensions of our planters not coming forward to support the "*Southern Agriculturist*" with their knowledge and experience, (which is, in fact, supporting themselves and their country,) to the present number, if all the preceding had not already proved the great willingness of every friend to contribute, and their capability of doing so in a way seldom equalled. Let the pages of this number be compared with any agricultural work of its size published either periodically or otherwise, and they will see that although the people of the South move slowly, when they do move, it is with effect. We look confidently for the same support in future, and have no reason to doubt its being liberally afforded us. But it is not merely among planters that we find information on rural affairs. In an agricultural country, almost every gentleman who is born there, let his profession be what it may, devotes a part of his leisure to the study of some branch of a science in which our whole country is so deeply interested.

The following communication from Judge JOHNSON, will be found a very important one, and it will be read attentively by Cotton-planters, and all others who can procure the Salt Marsh Mud, or even that from fresh water, for Cotton, as well as for other crops.

The Judge's general observations on the mode of increasing the quantity of Corn raised to the acre, are most judicious, and ought to be urged on every one who plants that, or other crops in our Southern climate, for they apply to all. Unfortunately, our general system of management has so far lowered our ideas of our lands, and of the common crops we grow per acre, that, not knowing what is done elsewhere, we are satisfied with producing a little more than some immediate neighbour, and thus no one makes even an attempt as *yet*, at going for the highest prizes. But no doubt by degrees, some of our planters will begin to try for their 100 bushels of Corn also, to the acre, for we think the facts stated by the Judge will be duly weighed, and take effect in some quiet corner of our land, when the advantages of raising as much Corn on *three* acres, as is generally got from *twenty* or *thirty*, are well considered.

The letters by "A Cotton-planter;" by "Another Cotton-planter," and by "A Subscriber," we can assure our readers, come from men who understand well the subjects they write upon, and the information their communications contain are consequently most valuable to every one engaged in this lucrative culture.

We regret much that "A Subscriber" did not send us his interesting observations on the Tariff-Fly in time for our last number. It might have induced others to follow his example. J. G.]

"Charleston, September 5, 1829.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Sir,—I have the pleasure to acknowledge your's of yesterday, in which you intimate that you had understood "that while I was owner of a plantation on Wando River, I had tried an experiment on an extensive scale in using salt-water mud on my fields;" and that "a knowledge of its effects, and the general result of the experiment would be of great use to agriculturists living on salt-water," and requesting me to furnish the particulars for an article in the "*Southern Agriculrist.*"

I have sir, too humble an opinion of my own pretensions or opportunities of acquiring experience, as an agriculturist, to venture upon an attempt to instruct others. Yet I am aware of the evil consequences that result daily from too much diffidence on this subject, since it probably results in the suppression of much useful knowledge, and certainly of many useful hints which those who possess leisure, enterprize and opportunities, might improve upon. Agriculture has been to me but little more than an amusing and interesting study; in practice a very unprofitable pursuit, for my professional and official avocations have put it out of my power to devote to it that close and continued obser-

vation, without which it is difficult to advance beyond the very A B C of the science.

With regard to the use of the mud of our salt marshes, I have reason to believe that I was among the first, if not the first who ever used it as a manure; and although I should not have intruded upon the public the little knowledge I have acquired in the use of it, yet there is one consideration which is imperative upon me in authorizing you to give this letter whatever publicity you may think it merits. It is this: I have now acquired great confidence in the use of this manure, and I would willingly save all others from the trials, delays and disappointments through which I had to pass before I had acquired that confidence.

I had studied the subject of manures, and went on at first applying to this the general rules upon the subject until experience brought me to a knowledge of the very different treatment which it requires.

It was long before I purchased the place at Wando, that I commenced my experiments on marsh mud. By a memorandum made at the time, I find it was in 1801. They have since been several times discontinued and renewed, but the conclusion to which they have led me, and under which I use it at present, are all that it can be of any importance to communicate.

I observe the following rules:

1. To obtain it free from sand, clay and roots, and of about the consistency of common mortar. If free from all extraneous substances, it is not very material how stiff it is, but when soft it is most easily acted upon by the weather, and sooner reduced to a productive state. When speaking of extraneous substances, I would except shells, for I believe there is no mud better than that which is dug out of a muscle-bed, or an old shell-bank.

2. In whatever way it is used, never to cover it with earth, for if buried but a little under the earth it remains a long time, if not forever, as hard and unproductive as a brick. It must be acted upon by the weather before it acquires or communicates fertility. And hence I committed a great blunder in my first attempts, by collecting it, or permitting it to remain in heaps. It must be distributed in bodies not exceeding the contents of a hand-barrow. On the other hand, if scattered about in very small bodies, it bakes in the sun, and becomes too hard and dry for the

wind, sun, rain or frost, to act upon. The spade or hoe, also, commonly glazes one or more sides of the lump in cutting it and makes it as untractable as a piece of pottery. When dropped from a hand-barrow between the rows of an old Corn or Cotton-field, in August or September, (instead of devoting the same time to clearing land, as is common,) the operation is a very neat one. The grass keeps it open, so that the sun and rain decompose it rapidly, and when a heavy rain falls, it washes off a portion of the surface, and the water being checked by this succession of obstructions, a black deposit is perceived all along between the beds. This is genuine "*lætamen*," to use the fine Latin word for manure. And if the mud be distributed in the same manner in a planted field, a portion of the fertalizing matter is carried to the root of the plant, in the water, and produces an obvious effect on its growth and colour.

3. The mud is not in any mode to be applied to the root or stem of the plant before it has been exposed to the weather, and exposed until pulverized. Until then, I think it injurious, except in the very small quantities which it will be conveyed by the rain water. I will not pretend to give the *rationale* of this rule, but I can do better, by noting the fact, that it kills the contiguous grass wherever it is thrown. Should I attribute it to the salt, I know I shall encounter strong prejudices, yet I should be at a loss to find any other cause for it, small as is the quantity of salt contained in marsh-mud.

With the observance of these rules, there is no soil and no plant that will not be benefited by the use of marsh mud. If, instead of continued clearing, and the itch for large planting, a system of manuring with it, should ever be steadily and judiciously pursued, it would produce a revolution in the agriculture of the low country. I say of the low country, for where the mud of the salt-marsh cannot be had, that of the fresh-water ponds and rivers may be resorted to, which, when free from extraneous matter, can want but little of being equal to the former, and in immediate effect must excel it. What is wanting in quality must be supplied in quantity.

I remember some years ago, in a discourse delivered at the request of the Literary and Philosophic Society, in pressing this subject upon their attention, I incurred a good deal of criticism by the assertion, that a single acre might

be brought to produce one hundred bushels of Corn. I had sufficient data at the time to have established the assertion, had I imagined it would be ridiculed. But at present the most incredulous cannot doubt. If newspapers are to be believed, a Mr. Fargo, near Rochester, in New-York, has raised 143 bushels of Corn to the acre. In New-Jersey, in 1822, 132 bushels were gathered from an acre; the Mr. Pratts, of Eaton, N. Y. produced 517½ bushels from three acres—equal to 172½ nearly, per acre.* To give any thing like this production to land, we might afford in favourable situations to cover our fields an inch deep with marsh mud. Especially when we consider the peculiar advantages attending this manure.

Unlike most other manures, and especially the mud of fresh water rivers, it contains no grass-seed. The salt water has destroyed every seed that would vegetate out of salt water. Yet there is scarely any other soil equally productive of grass after a few years, if we wish to cultivate it.—The late Mr. Robert Rowand, informed me of an instance in which a small piece of reclaimed marsh had produced a crop of Crab-grass approaching to five tons to the acre, which is almost unexampled, I believe, except in Lucerne.

But the great advantage of the marsh mud is its durability. Most other manures are either absorbed, exhausted, or washed away in a short time, and must be replaced.—This appears to produce an actual change in the soil, giving to our light sandy lands, a colour and consistency, and a durability approaching to what our planters know by the epithet of mulatto-land.

I am speaking, recollect, of cultivating little, and manuring it well.

I have the pleasure to subscribe myself, sir, your very humble serv't,

WILLIAM JOHNSON.

* We wish the Charleston Mercury, or Beaufort Gazette, would give us something in Southern Agriculture, equal to these facts, or the following.—*Ed. of So. Ag.*

Farming in New-Jersey.—Some improvements have been made in this country in agriculture and its branches, within the last twenty years, the merit of which is due to Agricultural Societies. At the commencement of this period, the highest crop of Potatoes was not more than 200 bushels to the acre; now, crops of this vegetable are often made, of from 400 to 700 bushels. The greatest quantity of Corn gathered from an acre was from 40 to 50 bushels; now we hear of many crops of from 60 to 120 bushels. In the interim, many valuable roots and plants, such as the Mangel Wurtzel,

ART. II.—*Observations on Mr.* SPALDING'S *and Mr.* SEABROOK'S *Letters, and on "An Emeny of Secrets;" by* A COTTON-PLANTER.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Sir,—In perusing your August number, I find some valuable communications on the manuring, planting, and cleaning of Sea-Island Cotton. That from Mr. Spalding, without detracting from the merits of so distinguished a planter of long experience and observation, should have been qualified I think, in regard to space in the Cotton-rows. I am under the impression that an experienced planter in planting two sections of land, the one from the richness of the soil likely to produce the plant luxuriantly, and the other section not likely to produce the stock more than half of the height, would plant at different distances.

In regard to drilling and then covering with the hoe, if the land is light and friable, it may answer; but if, on the contrary, it is stiff and tenacious, I doubt much of the utility, and should be fearful of not getting up a crop regularly; and as to soaking the seed for three days, or until the shell is burst, I should be apprehensive, if the land is of the latter quality, the seed would germinate and wither, particularly if the earth is dry. Covering with the foot I have found to answer on light lands, but not on stiff soil.—I have also tried a batten of wood about six or eight inches long, but a great objection to that is, that if the negroes are not strictly watched, they will use it too horizontally, and beat the seed out of the hole or trench, on to the side of the bed. Another inconvenience which is also experienced in covering with the foot, is, that when you come to any part of your field that is more adhesive, you have to stop your labour and go ever the field to procure hoes, to get damp earth and pulverize it to cover the Cotton-seed. I have therefore, now come to the conclusion, that there is no more safe and judicious way of covering Cotton-seed, than with the hoe.

the Swedish Turnip, the Carrot, the common Beet, the Cabbage, some of which were before scarcely known, have been introduced as general crops, and yield hundreds of bushels to the acre. Many new implements of husbandry have been introduced, and former ones improved, adding greatly to the convenience and profit of the farmer.

In regard to early and late planting, I believe that every experienced planter will agree with me, that our seasons, with a few exceptions in this latitude, are fully short for maturing the Sea-Island Cotton, particularly on rich lands, and that generally there is a considerable proportion of the finest Cotton, that is stained by frost, from the juice of the unripe pods. So far as my own observation has extended, I must say that I have always found the earliest plants the most hardy and fruitful, and stood the vicissitudes of the season better than late. What is the exact time to commence planting I shall not determine, but should not myself defer it after the 25th of March, in ordinary seasons.

In regard to Mr. Seabrook's excellent communication on manuring with salt mud, I perfectly agree with him as to the utility of pulverizing on stiff and close soils, and have been myself, and still am in the habit of composting it either with green marsh, cut and taken from the creeks, or with that rotten and trampled in a cow-pen, in the proportion of one-fourth of the cow-pen manure and three-fourths of the mud. But in our variable climate, what will answer in one season will entirely, or in a great degree fail in the next, as there is a clear demonstration the present season, for it appears to me, as far as my observation has extended, that saline applications have entirely failed, owing, I presume, to the uncommon moisture of the season. Still I think we ought to persevere in procuring as much, both of the marsh and the mud, as our means will allow, as there is no doubt but in ordinary seasons they are a powerful stimulant for Sea-Island Cotton, on exhausted lands.

I have also tried lime as a manure for Cotton in 1824, and again in 1828, at the rate of thirty to thirty-five bushels per acre. In 1824, I strewed it on the list; in 1827, I spread it on the surface between the list, and mixed it with the soil in banking the land. The appearance of the plant in its young state, in both instances, was flattering, but I was disappointed in the product.

In regard to the communication of your Correspondent, *(An Enemy to Secrets,)* concerning cleanliness in the gin-houses, certainly every planter of common industry should have his gin-houses swept out clean once a day, while in use; but I should rather keep water and dampness, as much out of my gin-houses as possible.

I am fearful I have been too tedious, but if you should think the observations I have made worthy of a place in your valuable register, you can insert them; and I subscribe myself

A COTTON-PLANTER.

Sept. 21st 1829.

N. B.—I continue to procure green marsh with a flat, to litter my cow-pen during the summer and fall, as long as I can with safety for the health of my slaves. During the winter I haul or cart in my Corn-stalks, and litter my pen, and although they do not make as strong a manure as the marsh, they answer well for Potatoes and slips.

ART. III.—*On the Rust in Sea-Island Cotton; on the Cotton-Caterpillar, and on the Peach Tree and its diseases; by* ANOTHER COTTON-PLANTER.

"Charleston, September, 22, 1829.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Dear Sir,—I return to you Mr. Farr's instructions for Cotton-planting, &c. which you left with me; I have given you some rough notes of my own, on some parts of them. If you publish those, they must appear to the public as general information; or, *Notes, by another Cotton-planter.* Mr. Farr resided on John's-Island for many years; the practice he pursued, was at that time, as is now, very much the method pursued by other planters on that Island—some alterations or improvements in some particulars, have since been introduced; but, upon the whole, I think it a valuable paper to planters, as containing much useful information to them.

With respect to the causes of rust, I think it may be traced partly to iron ore mixed with the soil; as it generally appears first on land of that description;* but chiefly to

* Our esteemed Correspondent *has never seen rust produced on new land*, and as it appears on iron-ore land, which is naturally more deficient in *vegetable* matter, or the food of plants, from its abounding in *mineral* matter which is *not* the food of plants; may not the idea of iron-ore producing rust be a mere popular notion arising from the association of the words rust and iron? We are now following up the inquiry, "what is the cause of rust in

the impoverished state of the soil, which when reduced much by bad culture, is not able to bear excessive drought, nor excessive rains. I have never seen any rust on new land. I have noticed, that after repeated plantings, if the fertility of the land has not been kept up, by manures applied in sufficient quantities at every planting; or the field kept inclosed from animals, and indulged with one or two years' fallow at a time, rust soon begins to appear. I take it, that the most effectual method to restore worn-out lands, is, to enclose and let them lay fallow one or two years at a time; or, inclose the first year, pasture the second year, and plant the third year in Cotton or Corn. This method, with the help of manures of any kind, will soon cause the rust to disappear, and keep up the fertility of the land.

With relation to the Cotton-Caterpillar, it is important, first, to ascertain in what manner they are produced, whether from eggs deposited by the fly, or not. The former seems to be the opinion of most planters with whom I have conversed on the subject; but I doubt the correctness of that opinion: until that fact is known, it will be entirely useless to attempt to stop their progress from field to field, or a single field, by any human means in our power. Chaptal's statement with respect to the production of many insects, I believe is correct, and a rotation of crops, or fallowing the land, will probably, for the reasons he assigns, contribute much to their destruction; they cannot live without food congenial.

There has been so much written on the management of the Peach, by persons who have had more extensive opportunities for experience and observation than myself, that much more light cannot be expected to be shed on the subject. I will, however, give you the practice which I have found most beneficial. Shorten all the leading shoots of each branch annually, to four or five eyes, at a wood bud, in December or January; and take out all decayed shoots and superfluous branches, close to the limb or body of the

Cotton-fields?" and think we shall be able satisfactorily to prove to Cotton-planters, the origin the disease.

In like manner we shall follow up diseases and causes of failure in crops of every kind, as fast as they are disclosed and clearly proved to us to be general in the Southern States, and not mere individual cases; but of these last we shall also be thankful to hear, if attended with remarkable circumstances. J. G.

tree, and cover the wound immediately, with a paste made of three-parts soft cow-dung, and one-part of marsh mud. Bud or graft on Peach, or winter Plum-stocks, which are the most hardy and durable. The Chickasaw Plum is objectionable for its small growth and the suckers constantly rising up about the roots. Plant shallow, the trees facing the same points of the compass, as they stood before; spread the roots well near the surface of the ground, and raise the earth over them; stake the trees until they are rooted.—A grafted tree imported from Prince, at Long-Island, was planted for me too deep; three years after, it was removed and planted shallow, as above, in a rich soil, where it attained an uncommon size of trunk, and spread off branches; two opposite branches extended twenty-five feet from the extremity of one to the extreme point of the other; and so firmly was the tree rooted, that it suffered some of its branches to be broken from the trunk by the storm in 1822, without yielding; while other trees planted deep, with a much smaller head, were blown down. It survived a flourishing tree for twenty-two years, and expired the last year, from repeated injuries sustained in its branches, and neglect. I have some other Peach Trees, not so large, which were planted and transplanted at the same time, that are now in tolerable vigour, and bore plentifully this year. I have no doubt that Peach Trees raised from the nut, (where they are intended to stand,) which are more durable than engrafted or budded trees, if judiciously managed, and could be protected from the effects of storms, would live much longer than is generally supposed. A farmer in Pennsylvania stated that he has Peach Trees bearing in his orchard, that are forty-five years old.

The insect which injures the root of the Peach Tree, is a dark brown bug, about the fourth of an inch in length, with a beak, or probosis, not unlike the trunk of an elephant in miniature, but extremely hard and sharp at the point, with which it makes a puncture in the bark of the tree near the ground, where it deposits its egg, and produces the worm which preys on the root of the tree. The insect which destroys the fruit, is about the size shape and colour of a Pea-weavel, with a long sharp beak resembling the former, with which it perforates the fruit to deposit its eggs, which breeds the small worm that destroys the fruit; when full grown, it leaves the fruit and descends into the earth,

and changes its form in about ten to fifteen days; it comes out in the bug form, and commences its ravages again on the fruit. To guard against the depredations of this genus of insects, is the most difficult part of the management of fruit trees. Almost every kind of fruit seems to have a species peculiar to itself; that which attacks the Plum, does not appear to be more than half the size of the kind which depredates on Peaches, Nectarines, and Apricots.

To guard against the depredations of these insects, as well as others, I have used from two to four quarts of lime; the same quantity of wood-ashes; about half a bushel of marsh mud; or, the same quantity of dead oyster-shells from the river; used separately for different trees; and spread around the root early in the winter, and repeated annually. The trunks and large large limbs of the trees, I whitewash in winter, or brush very lightly over with some kind of oil, (much oil will kill the tree.)

I had a young Peach Tree attacked by great numbers of the small red spider, so small that they could hardly be discerned without the aid of glasses; when I noticed it, only a few sickly leaves remained at the extremity of the shoots. I caused the trunk of the tree, and large limbs, to be washed with ley made of wood ashes alone, and the remaining leaves and branches sprinkled with the same, for a week or ten days. The spiders disappeared, and in a short time the tree put forth new foliage, and became a healthy vigorous tree. The same management may be pursued for other kinds of fruit trees, with equal advantage.

Very respectfully, I remain, dear sir, your's, obe'tly,

ANOTHER COTTON-PLANTER.

ART. IV.—*On the Tariff-Fly; by* A SUBSCRIBER.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Sir,—My growing crop of Cotton (Sea-Island) is suffering from a disease which I first discovered about two years since, and which has increased yearly to the almost total destruction of my present one. As it is not probable that

I am singular in this instance, I give my own views on the subject in the hope of eliciting further information from some one of your numerous Correspondents; which may render essential service to the Sea-Island planter, and confer a favour on one of your subscribers.

Early in the season, (the last of June,) large brown blotches were discovered on the *ruffles*, as if hot water had been thrown on them; the wound seemed to have been inflicted on the inner surface—it first assumes a bruised transparent green, as if scalded, it then turns red, and finally, a dark brown. The *pod* occasionally is injured at the top or side, but oftener at the bottom, which causes the whole pod generally to rot, and occasionally but one section of it—some blossoms when open, appear as if cut off, or seem bruised previously. The *leaf* at first is speckled with small brown spots—turn yellow, finally brown, and then falls off.

The insect, (which I apprehend is the cause of this disease) when full grown, resembles the Fire-Fly, not quite so large, is more delicate in structure and less tenacious of life—the head is small, with two long feelers above the eyes, a proboscis similar to a mosquito; it has six legs, which, with the body, are of a bright transparent brown, the back is of a smoky colour. The young fly, which is about the size, and resembles in form the bug found in the English Pea. The head, feet and hinder part, are of a bright brown colour, the body of a delicate green, having the long feelers and proboscis of the old fly, but no wings. These insects are remarkably quick in their motions—the former in flying, the latter in running or jumping like a flea—they are apparently as much alive to the sense of hearing as they are to sight and feeling—on approaching the plant, they readily escape through the lower part of the divisions of the ruffle, which is admirably formed for the escape of rain and dew, or they take their departure through the upper opening. It requires considerable patience and observation to detect them; in their anxiety to escape observation, they resemble the caterpillar-butterfly, which like all mischief makers, seems to be as instinctively active in eluding the injured party as it is in committing the injury. They appear to do the mischief at night, and by perforating the pod, and sucking the sap from the adjoining vessels, thereby create a spreading ulcer, which seems to produce the same effect that our mosquitoes do upon strangers. I am not natu-

ralist enough to give you the Linnæun name or classification of this insect,* but from the strong resemblance it bears to a certain law on the hopes and prosperity of the planter, I call it the Tariff-Fly, and it may be for ought I know, germain to the Hessian-Fly. Its effects, although not so conspicuous on the plant as that of the Caterpillar, are certainly more fatal to its produce. From a view of the field now, it would seem that there was a fair prospect of pods, or, as we express it, tops, for 100 lbs. per acre, and yet three-fourths of these the fly has diseased, and are totally or partially rotting. A few of the dead flies are herewith inclosed—also a few bugs similar to those generally seen on the Artichoke—these appear to be unimportant in number, compared to the "Tariff-Fly," which are to be found on every form, blossom and pod in the field. *Quere.* May not these be the fly which produces the rot in the Cotton of the upper country.

Your's, respectfully,

A SUBSCRIBER.

Sept. 22, 1829.

ART. V.—*On Rust in Cotton in the Middle Country; by A. B.*

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Sir,—I take leave to inquire of you, and through you of your intelligent and experienced Correspondents, what is the cause of *rust* in Cotton? My land, which is river-swamp, while fresh is exempt from this disease, it being perceptable only in light, sandy spots, but old land that will produce from fifteen to twenty-five bushels of Corn to the acre, will not yield half an ordinary crop of Cotton. Until about the first of July, the plant looks luxuriant and promising, the rust then appears at first in spots, gradually spreading, so that by the first of this month the prospect of a crop is blasted. So far as my observation extends, the seasons have little or no influence on the disease. In your last number, (page 393,) I find the following remark by Mr.

* An insect of the order of the Hemipteres, and probably of the genus *Lygæus* of Fabricius.

Spalding: "I would burn the fourth spring, every thing from the surface, to guard as far as possible, against rust, a growing evil, which I consider *animal*, and best checked by fire." This idea as to me, is new, and I have no doubt but that the views of Mr. Spalding at large upon so important a subject would be highly interesting to your readers generally, as well as to myself.

Observing that rust was confined to old land, and believing that the only essential difference between new and old land is the absence of vegetable matter, it occurred to me that by incorporating vegetable subtances with the soil, the evil might be corrected; and I was about to institute some experiments based upon this hypothesis. My opinion, however, appears to be directly contrary to that of Mr. Spalding, who I trust will favour us with his theory, together with such hints as to preventing rust, as may have occurred to him. Should my experiments be satisfactory, I will do myself the pleasure of submitting the results to you. Your obed't serv't,

A. B.

Sept. 1, 1829.

ART. VI.—*On Horizontal Ploughing; by* N. HERBEMONT.

"Columbia, (So. Ca.) Sept. 11th, 1829.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Dear Sir,—The subject of horizontal ploughing is of the utmost importance in all hilly grounds, and even in fields only moderately so. If by it, as it is asserted, the washing away of the soil can be prevented, its advantages must be incalculable.

The observations which I am here tempted to make, arise more from my reading than from my own experience, and may be considered as merely addenda to Mr. Simkin's very interesting piece on this subject, in your number for the present month.

Connected with horizontal ploughing, must be considered *deep ploughing;* and this I think may be looked upon as a *sine quà non*, in good farming, whether on level or on hilly land. To enumerate all the advantages of deep ploughing may be unnecessary in this place; though that which is

productive of the greatest crops, cannot be too often brought into notice. Experience has fully shown that the abundance of the cultivated crops is always in proportion to the depth to which the land is stirred, (within certain bounds,) joined, of course to the other items of good agriculture, such as manuring, keeping the crops clean of grass and weeds, &c. I would ask the few advocates of shallow ploughing, if there be any still left, why are the products of horticulture so much superior to those of agriculture? Is it not chiefly to be ascribed to the use of the spade in gardens, by which the ground is turned over ten or twelve inches deep? Is it not certain that the best preparation of land for a garden, or any other ground for cultivation, is to trench, and turn it over one and a half, two, or even three feet deep? How will the produce of land thus prepared, compare with land ploughed in the usual way, three or four inches deep, allowing the same quantity of manure used in both? It may be objected that land with only about two inches of vegetable earth on the surface, would be ruined, if that two inches were buried eight or ten inches. I do not believe it would be injured, even in the first crop, but such land having first a good coat of manure, and then ploughed or spaded deep, would in a very few years have a good super-stratum of eight or ten inches, which it can never acquire by shallow ploughing. But this is only one of the advantages. Another very great one is, that whether the soil is level or hilly, it will imbibe rain water, without overflowing, precisely in proportion to the depth of the soil loosened by the plough or spade. I have not at hand the means of ascertaining the quantity of rain that falls in any one shower or day; but I know that a loose soil will imbibe more than half its depth of water without overflowing, and of course, without washing. That I may be better understood, I shall explain my meaning in a different way: Supposing that a depth of four inches of water falls in any one shower, on a field wrought by plough or spade eight inches deep, this quantity of water will be totally imbibed, without any of it lying on the surface; so on in proportion to the depth and also the absorbent quality of the soil. Any one can easily prove this to his satisfaction, as I have done this morning to mine, in this manner: I took two large glass tumblers of equal size, I filled one with the loose superficial soil from my garden; I then took the other

tumbler full of water, and poured it gently on the earth in the other, until it was saturated without overflowing, and I found it had taken more than half the water to produce the result. The difference between this coarse experiment and the effect of rain falling on a ploughed field is considerably in favour of the latter; for there is no doubt that the earth below the loose soil must also imbibe some. There is another experiment which I have made frequently, though with a view to prove a different fact, which proves the same thing still more forcibly. As it is a curious one, I mention it here: Take a tumbler, cup, bushel, or any other measure, fill it with clean dry sand, without packing it, and pour it out in another and larger vessel; fill the same again with clean lime in powder, also without packing it, and pour it with the sand; fill the same vessel again with water and pour it over the sand and lime. Mix them well together, and the whole will only fill the measure in which the three parcels were measured. This undoubtedly shows the great absolvent quality of earths in a loose state, and proves unquestionably the advantage of deep-ploughing to prevent the earth from washing down the sides of hills, when that ploughing is performed horizontal and deeply. The more accurately horizontally the operation is performed, the better the washing down of the soil will be prevented, if any thing can do it. It would certainly make the object more secure, if a few drains were cut in suitable places, as you advise.

With such facts before us, can any one hesitate a moment to save his fertile fields from irremediable destruction, when by the same means he will insure the production of greater crops.

I am, respectfully, dear sir, your obed't serv't,

N. HERBEMONT.

ART. VII.—*On the selection of Seed-Corn and the Seed of other Plants; by* Dr. FURMAN.

OBSERVATIONS BY THE EDITOR.

We regret that we did not receive the following communication in time for our last number, as it would have been more widely dispersed in time for the crop.

There is not a subject which we would wish to press more strongly upon the attention of our readers than the selection of the best growth of seeds of every kind, and we thank Dr. Furman for bringing it forward. In Corn, we have heard that the crops have been much increased by selecting seed from *stalks all bearing more than one ear*. We know of one instance of a like kind in Oats, where the grain was brought to a size equal to the best and largest English Oats, by the planter himself selecting and cutting off the ears with a pair of scissors, some years in succession.

In garden-seeds we would here observe, that most, if not all of the seeds, can be saved of excellent quality in this climate, by attending to the growth of the plants intended to be reserved for seed. Our own method in such cases is to save the earliest and best by placing a stake alongside the plant, whatever it may be, and the same method may be followed in the Corn or Cotton-field from repeated surveys of the whole crop. The gardener or driver would soon learn his master's mark, and would keep watch accordingly. J. G.

"Charleston, Sept. 8, 1829.

Mr. Editor,—The theory of improving the *breed* of plants, as well as of animals, by selecting the seed, or remarkable individuals of species, for future propagation, is certainly a sound one, being sanctioned by both the deductions of reason and the result of experiment. While so much has been said on the subject of experimenting with the different varieties of the Cotton-seed, with the view of improving the product and qualities of that leading member of our Southern staples; I have seen nothing suggested as to extending the investigation into the probability of improving, by the same method, the quantity and quality of that great *pabulum* of Southern life—Indian Corn. My business not being professedly agricultural, I cannot say whether or not the thought has occurred to others; or if it has, whether or not it has been carried to the test of experiment. In none of the books on husbandry, however, into which I occasionally look, nor in any of the conversations with agricultural men, in which I sometimes indulge have I heard intimated the thought which I am about to suggest: I beg leave, therefore, to submit it to the consideration of our planters.

In walking in my garden during the summer, I was frequently struck with what I would consider *three varieties* of

the Indian Corn, growing on a large bed. This Corn was all planted from the same seed, being the clear white flint of our sea-board. The bed had been enriched during the preceding winter, by raw manure from the stable, thrown on the soil and dug in with the spade. In the following May the bed was planted in Corn, in drills about three feet apart. The Corn, when it was about four feet high, was thinned off into hills of three stalks each, the thinnings being applied to the use of the stable. In August, the Corn having attained to an average height of perhaps fifteen feet, and matured its product into fitness for the table, my attention was called to the three varieties above alluded to, as manifested in the *frugiferous developments* of the plants.

1*st. Variety.* Stout vigorous plants, bearing *one* large heavy *ear*, and another much smaller in size, and most generally, though not always, abortive, but when not abortive seldom more than half filled.

2*d. Variety.* The plants similar in appearance and size with the foregoing variety, bearing *two apparently* large ears, standing out on long peduncles. To each leaf of the calyx or *shuck*, were attached long terminal blades or leaves, reflected at an acute angle with the axis of the ear. As the ear advanced towards maturity, several satellite or parasitic ears protruded themselves from beneath the leaves of the shuck, springing from the common peduncle, and swelling up the ear to a great size.

3*d. Variety.* The plants were sometimes, but not generally, so stout and vigorous in *appearance* as the preceding varieties, but nevertheless bore *two*, *three*, and sometimes, (but not often) *four* ears.

These varieties, as I have said, grew on the same bed, and were all planted from the same seed, and at the same time; the same hill, in some cases, exhibiting a sample of each variety. In the first variety, the product was commonly one large well-filled ear—the other ear being generally jejune. In the second variety, the ears were usually two in number, but small in diameter and length, and though well-filled, bearing no proportion, when stripped, to the appearance it made on the stem. In the third variety, there were commonly two and three compact well-filled ears, and sometimes a fourth of small size and scattering grain; the first and second ears were always large and heavy.

The corollary I have drawn from the foregoing facts, and which I would suggest to the consideration of planters, is,

that at the period of hauling Corn, the product from all those stocks, bearing two and three ears a piece, be selected and placed by themselves for the succeeding crop. Directions to this end I have given with regard to a crop of Corn growing on the Wateree; with the result of which it will afford me pleasure to furnish you at the proper time.*

Your most obed't serv't,

R. FURMAN.

ART. VIII.—*On the Introduction of the Scuppernong Grape into South-Carolina and Georgia, with a description of the Fruit, and the mode of culture pursued in North-Carolina; by* WM. BLACKLEDGE, *Esq.*

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Dear Sir,—In reading over the *Agriculturist*, I discover Mr. Spalding has given it as his opinion, that the sea-board of South-Carolina and Georgia, can never be a wine country. This may be true as to the foreign vines, but certainly the sea-board of those States must differ vastly from that of North-Carolina, if they do not abound in the Fox, Muscadine and Bullet Grape, as well as the common bunch, from which excellent wine can be made, and I have no hesitation in saying that the Scuppernong, the prince of native Grapes, both for wine and the table, would thrive as well in either of those States, upon the Wire-grass sandy ridges, and other piney lands, as it does on similar lands in North-Carolina, where this Grape was first discovered, if it were once introduced and cultivated in the manner it is with us. This Grape is rather larger than the Fox Grape, and bears in clusters, much like it; when ripe, it is of a yellowish white, and perfumes the atmosphere for a considerable distance around, by its delightful scent. I have now been acquainted with it for forty years, in the neighbourhood of Newbern, North-Carolina, where it went by the name of the Hickman Grape, after the man who introduced it there from Scuppernong River (a small river emptying into Albemarle Sound,) where it was first discovered. The profit made by this man by carrying these grapes to market, soon set others to raising them; and at this time almost every small planta-

* See a paper on this subject, vol. i. p. 423.

tion in our piney woods, near our towns has one, if not more of this vine, from the sale of the fruit of which they supply themselves with Corn and other necessities. The more wealthy farmers make wine of it, esteemed by our connoisseurs as very superior to nine-tenths of the wines imported. The manner in which it is cultivated, generally is as follows: The person planting it, selects that spot near his house, where he wishes to erect a pleasant shade. In the centre of this place he sets a chinquepin fork, or light-wood post, to rise about eight or nine feet above the ground; near this stake he plants his vine-roots, if he can get them, if not, cuttings, which require much care to make them live. As soon as the vine reaches the top of the stake, which will very often be the first year, he puts down other forks around the one to which the vine is attached, and lays good light-wood, or heart of pine rails, from one fork to the other, for the vine to run on. All the additional care he takes of it, is to enlarge his arbour as the vine extends, and very few ever pretend to trim. In this way there are single vines which have produced grapes enough to make two barrels of wine, besides supplying the family with an abundance of the fruit to eat. There are instances of a single arbour of this vine, affording a shade almost impervious to the rays of the sun, forty feet diameter each way. The ground where it stands upon being near the house, will be necessarily rich, whatever the original quality of the land may have been, and it is immaterial whether the land on which they are planted be of the light wire-grass sandy, or stiff piney woods. They thrive on either within fifty or sixty miles of the sea-board, but as you approach the gravelly and stony lands, they are much more difficult to propagate, and when rooted do not appear to thrive as well. If Mr. Herbemont, and Mr. Couper of Georgia, who appear to be devoting their attention to the culture of the vine, have not got this grape among their collections, I think they could not do better than procure it as soon as possible.* Should I live, and a vessel offers between Washington and Charleston, I will use my best exertions to forward to you the ensuing winter, a few of the roots and some of the cuttings. I would not be understood as giving it as my opinion that this Grape would not be improved by pruning, in the lands of either of

* Cuttings can be had from either Washington, Newbern, Plymouth, or Eaton, North-Carolina—*Ed. of So. Ag.*

these gentlemen; it would soon be discovered whether it would bear it or not. My principal object in this communication is to bring this vine to the notice of those two intelligent vignerons. Their judicious experiments would soon develope the superior excellencies of the wine to be made *from it.* Your's, respectfully,

WM. BLACKLEDGE.

Newbern, Oct. 1, 1828.

NOTE.—We were informed by a gentlemen we met in Salem, North-Carolina, that three barrels of wine had been obtained from a single vine, in one season.—*Ed. of So. Ag.*

ART. IX.—*Queries*; *by* PAUL PRY.

"Fee faw fum,
I smell the blood of an Englishman,
Dead or alive I will have some."

Mr. Editor,—Whenever I read what the learned call sophistry—the unlearned term it varnish, &c. it always puts me in mind of what my old school-master told me:

"Whenever you a doubting be,
Always fly to the Rule of Three."

They say in history, Falstaff did so with the men of buckrum.

"He put his back again the wall,
And thereby overcame them all."

Now sir, you being in the sunshine and I somewhat in the shade of knowledge, and knowing you are searching after truth as the North-Carolinians are after hidden gold, I hope you will not be offended in my asking the favour of you to publish for information the following rule of three sums. Mr. Sam. or some other Johnson, was a lively wit, and obliging man, and although he used to say with much good humour,

"By line and rule,
Works many a fool."

Yet I hope this wont prevent you from obliging me, as I merely ask for information, believing of Cotton what they say of men:

"Pray why should there such mighty difference be,
'Twixt tweedle dum and tweedle dee."

1. A has in the Charleston market fifty bales of Cotton, of the growth of 1828, gathered from the same field, ten of which, selected by the purchaser, brought him the *secret price* of 50 cents per lb.; the remaining forty bales he sells at the same time for 25 cents, the highest market price he

could possibly obtain; what advantage did A derive in the sale of his forty bales by his *own* knowledge of the secret price of the ten bales?

Those acquainted with the Sea-Island Cotton market, know that similar, or even greater discrepancies in prices have occurred in a crop, gathered from the same field, of individual planters.

2. If B sells in Charleston, at 100 cents, on the first of January, the Lady Rowena, arrives on the second with important news from the Liverpool Cotton-market, how will the prices in Charleston be effected by the knowledge of B's sale.

3. If A's Cotton brings in Charleston in 1827, 100 cents, and is sold when sent to Liverpool for 30 cents, what effect will the knowledge of B's selling in 1828, at 150 cents, have upon the sale of A's crop in 1828?

4. If A knowing that B has obtained 100 cents per lb. and holds his for the same price, and refuses 40 cents, what benefit has the knowledge of the secret been to him, when a fallen market reduces him to the necessity of taking 20 cents; or ships and netts 18 cents.

5. If fine cloths bring $14 per yard, what effect has the knowledge of the fact upon the sale of other woollens?

6. If Flint-Corn brings 100 cents, what effect will this have upon the general Corn-market selling at 45 cents?

7. If *favourite* Butter is sold in the market stalls at 50 cents, what effect will this have upon the general Butter-market, which ranges from 18¾ to 25 cents?

8. If it is known that B's calves bring throughout the year $10 per head, what effect will this exposition have upon the sale of those calves which invariably bring from 5 to $6?

If I were a teacher of Geoponicks, or, as "An Enemy of Secrets" has it, of "how to grow fine Cotton," and I attracted the attention of my neighbours to a fine orchard of fruit, with the avowed intention of showing them how to go and do likewise—I would not say, "*you* have failed because your successful neighbour has built a *high and secret* fence around *his* orchard. Whereas, if he would reduce his fence, to the level of *ours*, so as to facilitate the intrusion of the cattle and strangers within the gate, without the trouble of passing *through* it, he would then not be more fortunate than we are." I would rather teach—make your fence substan-

tial—manure and dig your ground with judgment—choose the best fruit-trees—keep them clean of grass and insects—study to improve your own system—seek for knowledge from those who are *already* successful, not from those who are as ignorant as yourself. Waste not your time and attention on finding out the most *secret* way of levelling your neighbour's fence with your own, but rather how to elevate your's to the usefulness and success of his—you will then grow as good fruit as he does. But how to find a favourable market?

Sell your crop at home for the highest price you can get; do not ship—better take 25 cents in January at *home*, than the disappointment of nett sales at 20, the subsequent October *abroad*—invite the buyers to *your* door, (Charleston)—do not send your goods to *his*, (Europe)—"a bird in the hand is worth two in the bush"—"a penny quickly turned is better than a pound standing still." I would at any rate repose as much confidence in my factor at home as I would in a stranger 4000 miles off—both equally honest men.—The brokers in Europe write that the order of things has changed—the manufacturers purchase there now, *one*, *two*, or *more* bales, as may suit their immediate use, on better, or rather on their *own* terms, of course, at a *lower price* and *better choice* than they *formerly* could as *many hundred* bales of the *same* Cotton *here* for *cash*. Your's to serve,

PAUL PRY.

N. B.—The merchant frequently follows to *Liverpool* the Cotton, and pays for *it there ten* cents *less* than he offered for it *here*.

NOTE BY THE EDITOR.

We certainly did not contemplate a visit from this unlucky wight, and especially at this moment when we are engaged with some of the best company in the country, and subjects before us which we cannot put aside. But although it is his usual plan just to "drop in" when he is least wanted and most in the way, yet in this instance we will neither refuse him admittance, nor turn a deaf ear to his queries.

If he is a Carolina "Paul Pry," which we shrewdly suspect, or some intelligent friend in disguise, we shall pick up some information through the answers to his questions, which no doubt will pour in upon us from all quarters, as soon as they are read. We think we could ourselves throw a little light on the subjects he would lead our readers attention to! But our hands are too full to permit either our visiter or ourselve to go further in this number. J. G.

ART. X.—*On Rice Mills; on Calculations of the Profit of Rice Mills, and on the Operations connected with Rice-planting generally; by the* EDITOR.

The introduction of Mr. Ravenel's principle in preparing Rice, will be, we hope, the commencement of a new era in the annals of this old staple of Carolina.

By Mr. Ravenel's principle we do not mean merely banishing forever the unwieldy pestles and pestle-shafts of the present mills, but we mean the *principle of economy* introduced by that gentleman, and steadily kept in view in all the operations he has turned his attention to, which show him at one to be the friend of Rice-planters, and therefore intitled to their most active support; and this principle, in the preparation of Rice, we call "Mr. RAVENEL'S PRINCIPLE."

It is well known to the Carolina Rice-planters, that years ago we embarked ardently in the cause of this branch of agriculture, and pointed out instances of waste in the mode of bringing it to market, which were so striking that the attention of every one connected with this crop, was directed towards so important an subject. It was with no small degree of pleasure then that we found the notions of *saving waste*, had been extending themselves quietly in a direction which was little dreamt of, and towards an item of the heavy expenses of Rice-planters, which we ourselves considered, for very good reasons, altogether hopeless at the time: we mean the machinery of the Rice Mills themselves.

Two years ago Mr. Ravenel sent to the Agricultural Society of South-Carolina, a notice that he had had constructed a *Tide Rice Mill* for his friend Dr. Prioleau, at a cost not exceeding $3500; that this mill had been in operation some time, and not only beat out the crops of the proprietor, but other Rice raised in the neighbourhood; and that he was convinced Rice Mills of a similar kind could be built by others for the same price, on their own plantations.

It is well known that Mr. Ravenel is not a professional mechanic, but engaged in business, and besides the greater confidence which could be reposed in the accuracy of his statement, from this latter circumstance, (as it of course led him to be particular in his accounts) the former was in itself a guarantee that the information he conveyed to the re-

spectable Society he communicated with, was as disinterested as it was useful.

But Mr. Ravenel's exertions did not rest here, he proceeded with a variety of experiments in beating Rice, ending with the patent pestles and wire mortars, which have been exhibited and have given such perfect satisfaction to the numerous Rice-planters in Charleston, by cleaning Rice before them.

This improvement in Rice Mills, as is now known to most persons, consists in getting rid of the enormous pestle-shaft and lifters, and the heavy pestles weighing 360 lbs; with the expensive foundation of solid brick work required for the mortars to lie upon; a part of the machinery requiring very considerable experience to manage; always attended with danger; propelled (even by water) with difficulty, and hence inapplicable to mills moved by animal power, without sacrifices almost ruinous. For these are substituted pestles moved by cranks, which rise and fall only a few inches, and of a size not exceeding 3×4 scantling, of about four feet in length.

One consequence of this improvement is, that the pestle does not strike on the Rice in the mortar with a force or weight equal to some thousand pounds,* it does not *pound* it, or *beat*, but performs by rapidity of friction, what is done on the old system by weight and hard blows.

It must be evident to the most superficial observer, that when experience has taught Rice-millers the right use of Mr. Ravenel's patent pestles, this admirable improvement will obviate one of the greatest difficulties in preparing Rice well for market, and in a great measure get rid of one of the heaviest items of loss to the Rice-planter; we mean small Rice. Every one who will reflect on the old mode of pounding, will perceive that each stroke of the pestle must have broken the Rice more or less. If, therefore, it was either red or dingy in quality, it was necessarily kept longer in the mortars, to bring it to a merchantable state, while the offals were increased in proportion, and sometimes to a ruinous extent, even without so good an apology.

On the contrary, by the patent pestles, where mere friction is applied to brighten up Rice, while in the mortars,

* We wish some intelligent friend would calculate the force in pounds, with which a pestle weighing 360lbs. strikes on Rice, when lifted to the usual height in Rice Mills.

this evil consequence can scarcely ensue; and as on the old system there is no guarding against carelessness, neglect or other causes by which the whole Rice may be wasted and the offals increased, the new pestles offer to the Rice-planter a more perfect guarantee of a good *turn out* than any other he can have.

But to the Rice-planter who has hitherto sent his rough Rice away from the plantation, but now wishes to beat it at home; who *longs* to have the satisfaction of improving his crop in every particular, and of enjoying the comfort of the offals which it produces, this improvement presents itself in a way which is really consoling. The animal power required is not beyond the means of even a small Rice-plantation. The room requisite for the mill is not more than can be spared at one end of many barns already built, and where this is not possible, the whole machinery can be put into a building of comparatively small size.

There is therefore every inducement to the numerous Rice-planters to make arrangements to use this improvement. To the extensive planters it offers an increase of work, as the same water power will carry more pestles, with greater safety, and a saving of great waste in the offals; to the smaller planter it gives the means of saving the heavy portion of the crop paid in toll, or lost in the way to the factor's hands. To all, it affords, in our opinion, the certainty of sending Rice to market in the highest state of preparation.

We trust Mr. Ravenel will, from the whole class, meet with that active support, and of course remuneration, which his ingenuity intitles him to. His trouble we know has been excessive, his expense very considerable, and he has met with the greatest opposition when he ought to have been zealously supported. To those who are at a distance, we would observe, that these mortars and pestles were fairly tested *for many months*, not only by Mr. Ravenel, in a regular mill, but also by Messrs. Norton and Carrol, and that these gentlemen, with a liberality which we hope will be remembered by the planters, have purchaseed the right to the patent for a distance of two miles round St. Michael's Church, in Charleston, thus giving their decided support to native talent, and have erected a steam-mill of thirty-two mortars, to beat on toll on this plan, in addition to the powerful one which they have already had in operation for many years, and to which we most cordially wish every success.

This state of progressive improvement; these prospects of reduction in the necessary investment of capital, is encouraging to the Rice-planters. We wish we could show them the advantages of vigilance on their side, directed to every department connected, however remotely, with the incomes of their plantations.

The want of attention to economy in agricultural affairs leads sometimes to very extraordinary consequences—important even in a national point of view. One would scarcely suppose that the neglect of the early Rice-planters, in ascertaining precisely what the offals of Rice were, *when beat out by hand*, would have entailed upon their posterity the heavy losses so often alluded to in sending Rice to market. But such is the fact. If the first Rice-planters had settled the question of offals, and prevented their being stolen, no inquiry would have been necessary on the part of Agricultural Societies; and had the planters who beat at toll mills learnt in early life what their rough Rice ought to yield, they would not have submitted to the enormous losses so many have put up with for want of knowing better.

If the toll-mills, on their side, had consulted their own *true* interest, they would have seen that to economise for the planter, was in the end to save for themselves, and to increase their trade without the fear of competition.

But the ignorance of the early planters, with regard to the true turn-out of rough Rice in beating with the hand, descended to those who employed the toll mills, and losses at last became so familiar, that they had almost ceased to be spoken of. In this state of confidential apathy, and trusting to a continuance of it, the foreign Rice Mills were projected and built, no doubt calculating on the planters losses as on a sure profit.

The progress from the negroes pilfering small Rice in the barns in beating out daily, to the enormous losses which so many planters complain of, and which the foreign Rice Mills have turned into gain, may be traced, step by step, by those conversant with the subject. The result ought to serve as a beacon to planters to steer clear of negligence, even in small matters. And while we lay before our readers the ultimate consequences of such neglect in the following table, as far as the new Rice trade has advanced, the real loss to the toll-mills, during the last few years, is easily calculated. We wish we could venture to urge upon these gentlemen the necessity of stopping the foreign trade in

rough Rice, before it goes further. This can only be done by reducing the toll and lessening the deductions upon the Rice sent to the mills.

If the public mills have lost the toll on fifty thousand barrels of Rice in so few years, as appears by the following official return, *and this by one foreign establishment alone*, what will they lose by three or four more? This is a question which concerns them deeply to resolve, before it is too late, for while *they* have only one sure method of getting employment for their mills, namely, by strict attention to the interest of those who employ them, the planters will have added to the conveniences of selling in the rough, and of beating out on toll, the means of preparing their own Rice, *on their plantations*, through Mr. Ravenel's economical machinery. J. G.

STATEMENT *of Rough Rice* EXPORTED *in American and British Vessels, from* 1*st January*, 1824, *to* 30*th June*, 1829.

Nation to which the Vessels belong.	1824.		1825.		1826.		1827.		1828.		1829.	
	Bushels.	Tierces.	Bushels.	Tierces.	Bushels.	Tierces.	Bushels.	Tierces.	Bushels.	Tierces.	Bushels.	Tierces.
American,...	13,941		48,654	100	72,047	0	82,979	165	54,793	11	34,502	00
British,.....	60,590	205	74,605	515	43,203	0	103,143	000	233,777	252	191,408	10
Total,.....	74,531	205	123,259	615	115,250	0	186,122	165	288,570	263	225,910	10

	Bushels.	Tierces.	Value.
Total—in American Vessels.....	306,916	276	$254,435 00
" in British do.....	706,726	982	589,582 00
Total Exported,.....	1,013,642	1,258	$844,017 00
		50,682	
Total Tierces,...		51,940	

ART. XI.—*Extract of a Letter to the Editor, from the Middle Country.*

"October 2. 1829.

Dear Sir,—I am much pleased to have your testimony on the improved and improving state of agriculture in our State; to facilitate and make permanent that improvement, I confidently believe fallows and rotation, added to the *farming* system, (that is, *raise* and make every thing ourselves—hogs, horses, Corn, *hay* and vegetables, and spend the summers at home,) is essential, and will eventually raise our State, to a degree of prosperity and comfort, superior to what she has ever enjoyed; because tempered by the lessons of adversity and oppression. Permit me here to remark, that I do not think the people of the lower country have even been sufficiently aware of the importance of *non-migration* and *non-consumption*. I have it from the best sources, that *our* resolutions and partial adherence to the latter system especially, has done more to open the eyes of the manufacturers, and added to their recent failures and distresses, than all the *expositions* and *protests* ever sent forth by our legislature. *We* are sensible that *they* are not open to argument, that *we* must address ourselves to their pockets and not to their mind.—How shall we do this more effectually than by refusing to buy their *stuffs*, and giving the preference to foreign *plains*, at least, *even* at a higher price, or by ********. Your interesting and valuable work, I conceive, can do much to promote that result; which in fact is promoting the system of farming. It will give me pleasure at all times to reply to your queries and contribute to the pages of the *Agriculturist*."

"The bearded Rice, as far as it has been cultivated here, evidences its superior adaptation to *high* land, over the other. This being a dry season and fall with us, proves that fact—whether it is more abundant in product in low or damp land, is a matter I have not yet ascertained. Rice, with *us*, can never become a staple, it will only be planted for family use, and thus we know but little, and give but little attention to its culture. Should you esteem it a matter of interest to your lower country friends, I will collect what evidence I can on its growth here, and comparative product."

ART. XII.—*An attempt to simplify the Agricultural process of the Grape; by* GEO. J. F. CLARKE.

"St. Augustine, 30th May, 1829.

"To the EDITOR of the SOUTHERN AGRICULTURIST.

Sir,—There can be no doubt of the capability of the Middle and Northern States of this Union, deriving much wealth, and much morality with all its concomitant blessings, from the culture and manufacture of the Grape. Valuable information on this subject has already appeared in your highly applaudable work. Florida stands deeply interested in this subject, inasmuch, as from a very singular concatenation of local causes, she must become pre-eminent in, at least, the richest variety of this multigenerous article, the indigenous production of perhaps every vegetable region of our globe. I have many varieties of imported Grapes, selected for their diversities of countries as well as their known qualities, and the best of our wild kinds, under this, the fourth year's experimental cultivation, on which I hope to address you at a future day. My ultimate object is not a mere collection of varieties, but a test of which will best suit this tropical part of the United States, in order to the selection of a few of the best kinds for the table, and a few others for manufacture, and then discard the rest. So far their progress go to show, that this is among the favourite homes of the Grape. Nature having planted in this country a variety of the vegetable productions so peculiarly extensive, affords us evidence of the susceptibility of the introduction of many valuable exotics; which, duly appreciated, must turn this way a large branch of commerce that is continually going from these States into foreign countries.

My present object is an attempt to encourage, by simplifying, in some measure, the agricultural process of the Grape. Like all other things handed down to us from remote ages, it is clogged with prejudices and erroneous theories, that go to bewilder many of those who have, and deter still more of those who would, embark in it. They scarcely meet two of the many professors of the art who agree in principle or method; and but very few who do not attach important consequences, good or evil, to matters connected with it of the smallest moment. The natural reflection,

then, "when Doctors differ who is to decide?" turns them from their purpose; unless, possessing native strength of mind, which is not the property of every man, they resolve to pursue their own way.

I have been all my life at least a dabbler in gardening, in which the Grape has partaken in one of my best bows of attention. I have met with no large perennial plant more easy of propagation, more simple of cultivation, or more sure in its returns. If it has roots, and they are permitted to dry during the transplanting, and the ground it is placed in is kept wet for a few days, it rarely dies; and should it dry down to the ground, it seldom fails of shooting up strong sprouts from below. They can be transplanted with great success at all seasons; even when loaded with foliage, without losing their tender sprouts that are not bruised, with the only addition of a bush stuck up on the South side, to relieve, for a while, the mid-day sun. The cuts without roots, if enough to extend down to continued moisture, immediately shoot a strong root from between the bark and the wood at the end, which in the run of a season will be nearly as thick as the vine itself; while those side roots from the joints, and between them, will be but small for years. Trailing, or much slanting cuts, is injudicious, however long they may be, as this keeps the end on which it depends for its best roots near the surface, in proportion as it recedes from the perpendicular; and which, if lost, not only endangers the whole plant in the next spell of dry weather, but assuredly keeps it for years in a puny state. When two cuts are placed together at a station, then it is proper to diverge their lower ends a little, in order to extract one for transplanting, should both promise well, without disturbing the other.

The first year, whether transplanted with roots from a nursery, or cuttings without roots, it is better to let them run at pleasure, only keeping the ground clean, and loosened at the surface; the more foliage they throw out the stronger they will root. (The reverse of this is a mistake often committed on young trees, generally, after putting them out as standards—they should be considerably reduced if large in foliage at planting them out, but the new production should be cautiously removed the first and second year after—leaves are as necessary to good rooting, as good roots are to good leafing—very few plants, perhaps none of any kind, however full of roots when transplanted, more than keep themselves alive until those roots have produced new ones.)

If intended to cover an arbour, a choice sprout should be trained to form a body; and as soon as it has got above the arbour, it should be topped in order to its putting out several sprouts, in the form of an open hand with the fingers extended wide apart, called the head of the vine; and at the trimming season (any time from shedding the leaves, to just before their budding in the spring,) they should be cut down to two or three eyes each. As some kinds of Grape-vines give out a much less vigorous foliage than others, they should be planted more numerous around the arbour, which is the best way; but in defect of this, conduct a branch or two from each of the hands to the vacant parts of the arbour, and there top and form them into other heads. If intended to run on trellises, the vine should be headed just above the height of the trellis, and a few choice arms along the body on each side, left to intwine through, or fasten up to it horizontally. And if for stakes, in the vineyard training, various are the modes made use of; the scale being larger here, economy in lumber and labour is more important; and the other leading objects are, to keep the fruit from the ground, and display them thinly covered by their leaves, to the sun and air. Some kinds cannot be kept too nakedly displayed.

The disposal of the vines, as regards their form of growth, is altogether a matter of fancy; but it is proper that that should be settled before their second trimming, as a removal from any one of these plans, the arbour, the trellis, or the stakes, would be attended with awkward results, and a check on their bearing a full crop for a year or two. The vineyard plan can be well effected with but four stakes, five or six feet long, to a vine; and these can be kept out of the weather six months in the year. And though the vines be but slightly tied up to them with a wisp of straw, they soon secure themselves by their own gripers, which become strong in proportion to the weight they have to support.

(To be continued.)

PART II.

SELECTIONS.

ART. I.—*A Report on the Agriculture of Eastern Flanders; drawn up at the desire of the* FARMING SOCIETY OF IRELAND; *by the Rev.* THOMAS RADCLIFF. *London.* 1819.

OBSERVATIONS BY THE EDITOR.

AN interesting anecdote, related by Chaptal of Buonaparte and the farmers and landholders of a part of Belgium, will be found in our last number, page 468. It is a characteristic of the man, and the fact in agriculture as well as in political econony, is invaluable to us in Carolina. It proves the necessity of giving encouragement to every thing which promotes the intercourse between the great outlets of a State and the interior; between the sea-ports and its agricultural back country.*

But we wish to carry our readers a little further than mere general reflections—we would lay before them the means which these enterprizing Netherlanders used to convert their barren heaths into luxuriant fields, and we do it with this remark, that as we differ from all nations in our government and customs, so we ought in our agricultural pursuits. We ought not to be tied down as they are, by inveterate habit to the particular mode by which any desirable object is attained, but laying hold of the principle which it embraces, take our own way of effecting it; that is, use the best means we have in our power, if it is worth the doing at all. We would explain this observation, by applying it particularly to the urine-cisterns in the Netherlands, which would be constructed with difficulty in some parts of our Southern country, while the preservation of

* We do not very well see how men of capital, who can well afford to risk the value of a few shares, or perhaps of a single share, in the Rail-road from Charleston to the interior, can neglect this national undertaking, or refuse to support it, *even if it is a risk*, which we do not think.

what is contained in them, is within the reach of every man who has a stable, and *other* conveniences on his place.

"It is in Flanders itself that may be best seen," says the Rev. Mr. Radcliffe, "with what skill the farmer cultivates a bad soil, *(un sol ingrat)* which he forces to return to him with usury, a produce that the richest and strongest lands of the neighbouring provinces refuse to yield."

"The interesting outline of the agriculture of Flanders, published by the Right Hon. Sir John Sinclair, gives rise to the present work.

"The directors of the Farming Society of Ireland, perceiving in that, so much to attract attention, conceived that a more minute detail might be of importance, and resolving to procure it, the duty devolved upon the author of the following report.

"The judgment of the directors, in making this inquiry, is evinced by the importance generally attached to the subject, and particularly by the interest which the Board of Agriculture in England has latterly manifested respecting it, in the very liberal premiums offered for the best detail of Flemish husbandry.

"His Royal Highness, the Archduke John of Austria, preceded the author by a few months in a tour through Flanders, and was so fully satisfied with what he observed, as not only to note the practice, but to transport the implements into his own country. *Preface*, p. 5, 6.

Cultivation of sandy soils in Flanders.

"Those divisions,* in point of extent, are considerable; and in the poverty of their soil and abundance of their produce, bear ample testimony to the skill and perseverance of the Flemish farmers.

"The soil consists of a *poor light sand.* A considerable proportion of them, in the 15th century, were, as is stated, *barren lands and heaths.* The spots which remain uncultivated, are proof pieces of the original quality, but are now rarely to be seen.

"The chief produce here is, Rye, Flax, Potatoes, Oats, Buckwheat; Rape-seed, and Wheat in a few favourable spots; Clover, Carrots, and Turnips, generally.† The Western part of No. VIII, is the best soil and yields Barley, Beans and Vetches. There are in this direction, some good pasture grounds. The hay is not abundant, and is of a coarse quality in low lands, subject to flood. Timber and other wood for fuel, are to be found

* The author divides the whole country he surveys into eleven parts. The divisions he speaks of now are 7, 8 and 9, and lie arouud Bruges and Ghent.

† It is to be recollected that we do not recommend the same crop, but to apply the system pursued to our own, which are infinitely more valueble. —*See page* 455.

in great abundance throughout those divisions. In No. VII, and No. IX, there is very little soil to be found strong enough for the production of Wheat, Barley or Beans; but in other respects, the succession and management in No. VIII, may be taken as a standard for all.

"On the Western side of the district, and where the soil is capable of yielding Wheat, there are two modes of rotation: one comprising a nine years' course, in which wheat is but once introduced; and the other, a ten years' course, in which they contrive to produce that crop a second time; but in neither instance without manure, *which indeed is never omitted in these divisions*, except for Buck-wheat, and occasionally for Rye. Nor can there be a stronger instance of the natural poverty of the soil, and of the misconception which prevails as to its general richness, than the necessity of this annual recurrence to manure; *without which*, all the labour and industry of the farmer would be in vain. Nor are they less liberal of their labour with respect to frequent ploughing; nor do they suffer a field to remain a week after the crop is harvested, without being turned by the plough. Even in this sandy soil, they rely much upon the utility of this practice; and especially for the prevention of weeds." pp. 94—96.

"*Rotation upon the best sandy soil.*

"1st year, *Potatoes or Carrots*, with four ploughings, and twelve tons of farm-yard dung, per English acre.

"2d, *Flax*, with two ploughings, and 105 Winchester bushels of ashes, and 48 hogsheads, beer measure, of urine, per English acre.

"3d, *Wheat*, with two ploughings, and ten tons and a half of farm-yard dung, per English acre.

"4th, *Rye and Turnips*, with two ploughings, and ten tons and a half of farm-yard dung, per English acre.

"5th, *Oats and Clover*, with two ploughings, and ten tons and a half of farm-yard dung, per English acre.

"6th, *Clover*, top-dressed, with 105 Winchester bushels of peat or Dutch ashes, per English acre.

"7th, *Rye*, with one ploughing, and 52 hogsheads, beer measure, of night-soil and urine.

"8th, *Oats*, with two ploughings, and 52 hogsheads, beer measure, of night-soil and urine.

"9th, *Buck-wheat*, with four ploughings, and without any manure."—p. 96.

"*Rotation on the inferior soil.*

"1st, *Rye and Turnips*, with two ploughings, and ten tons and a half of farm-yard dung, per English acre.

"2d, *Oats and Clover*, with three ploughings, and the same quantity and quality of manure as for the Rye.

"3d, *Clover*, top-dressed with 105 Winchester bushels of peat or Dutch ashes, per English acre.

"4th, *Rye*, with one ploughing, and 52 hogsheads of urine or night-soil, per English acre.

"5th, *Rape and Turnips*, with three ploughings for the Rape, about one ton and a half of lime and 52 hogsheads of urine, per English acre; and one ploughing for the Turnips, (after the Rape is harvested,) and ten tons and a half of farm-yard dung, per English acre.

"6th, *Rye*, with one ploughing, and 48 hogsheads of urine or night-soil, per English acre.

"7th, *Oats*, with two ploughings, and the same quantity and quality of manure as for the Rye.

"8th, *Buck-wheat*, with four ploughings, and without any manure.

"9th, *Potatoes*, with three ploughings, ten tons and a half of farm-yard dung, and top-dressed with 37 hogsheads of urine or night-soil, per the English acre.

"10th, *Flax and Clover*, with two ploughings, ten tons and a half of mixed manures, and 52 hogsheads of urine, or night-soil, per English acre.

"11th, *Clover*, top-dressed with 105 Winchester bushels of peat or Dutch ashes, per English acre.

"12th, *Rye*, with one ploughing, and without any manure."—pp. 97, 98.

The average quantity of seed sown, and of the produce gathered or received, *from the lands thus manured*, is stated by our author to be as follows:—

Average Seed sown per English acre.	*Average Produce per English acre.*
Rye.—One & one-seventh Winchester bushel.	*Rye.*—Thirty-five and a half Winchester bushels.
Wheat.—One and one-seventh Winchester bushel.	*Wheat.*—Twenty three Winchester bushels.
Oats.—Three & three-sevenths Winchester bushels.	*Oats.*—Twenty-nine Winchester bushels.
Buck-wheat.—One and one-seventh Winchester bushel.	*Buck wheat.*—Twenty-three & three fourths Winchester bushels.
Flax.—Two and a half bushels.	*Flax and Clover.*—Yielding both seed and substance. The former gives four and three-fifths Winchester bushels of *seed*, and about $60 or $70 per acre, from the stalk. The latter gives three to five cwt. of seed, and a great return of *fodder*, in two and three cuttings.
Clover.—Six pounds and one fourth.	

pp. 143–146.

(To be continued.)

ART. II.—*Extract from an Address delivered at the first Anniversary Meeting of the United Agricultural Society of South-Carolina, in the Hall of the House of Representatives, at Columbia, on Thursday, 6th Dec.* 1827; *by* WHITEMARSH B. SEABROOK, *President.*

"The human mind is susceptible of indefinite expansion. Admirably subservient to the great ends of its creation; its operations display the nobleness of its origin, and the profundity of its comprehension. Of a nature inherently elastic, it can readily accommodate itself to any sphere of action, to which the interest, or the necessity of man may invite it. At the bidding of education, it can penetrate the bowels of the earth, and eludicate its arcana; or, it can soar to the very confines of that mysterious region, in which a superior intelligence alone reigns. From these considerations, predicated on the wonderful and unceasing display of the power of the intellectual world, is it not a matter of astonishment and regret, that the mind of man should never have been aroused to a full development of its energies, in relation to the most important object of human pursuit? Were our mental faculties given to us to elucidate the principles of particular professions only? Is agriculture doomed to be governed by accidental circumstances? or, was it intended, when the ground was cursed for Adam's sake, that the husbandman should enchain his reason and his judgment, as irrelevant to his vocation? To what cause are all the improvements which now characterize the system of agriculture to be ascribed? Compare the general practice of husbandry in England now, with what it was in the 14th century; and its present condition in the United States, to the very low state in which it existed, at the establishment of the Pennsylvania Society.* In the salutary change which has been effected, I point exultingly to mind, as the primary, efficient, operative agent. Until the time of the scientific Tull, agriculture may be said to have been without order, without method, without even a fixed and determinate character.—His new system, introduced into England about seventy years ago, has been the means of the English farmer doubling 'the quantity of his produce, without any increased ex-

* Judge Peters, the founder of the Pennsylvania Agricultural Society, richly merits the epithet of the Father of American Husbandry.

pense in the cultivation.' It is true, that Cato, Columella, Virgil, and other eminent ancient writers, have enriched their pages with the pleasures, the moral influence, and the transcendant national advantages of agricultural pursuits, yet their labours were but slightly directed to the methodical arrangements and digestion of the principles of their favourite art. In modern days, however, some advance has been made towards the effectuation of this object. To Rozier and Chaptal of France; to Miller, Marshall, Coke, Sinclair, Young, Davy, and others of Great-Britain; are we indebted for the partial exposition of a subject, as comprehensive in its character, as it is important in the abundance and value of its materials.

"Every pursuit of human life is the more profitable, the more useful, and the more likely to attain its legitimate purpose, by a proper understanding of its elementary principles. 'To the due success of agriculture,' says Mr. Madison, 'theory and practise are both requisite. They always reflect light on each other. If the former, without the test of the latter, is a vain science; the latter, without the enlightened precepts of the former, is generally enslaved to ancient modes, however erroneous; or, at best, but too tardy and partial in adopting salutary changes.' To the scientific farmer, his whole life is one eternal round of observation, examination and reflection. Invigorated by knowledge, he investigates, with a view to the application of an effectual corrective, every cause, which, in its effects, may have marred his anticipations. Satisfied of the truth of these remarks, and of the happiness and elevated station which awaited his country, from the cultivation of the comparatively illimitable extent of her domains, Washington had determined to give another signal proof of his patriotic devotedness.—Amidst the anxieties and burdens of the Presidential office, he actually prepared a plan, for the establishment of a National University, for the promotion of husbandry; but, from the intervention of some unforeseen contingency, it was never submitted to the Representative branch of the government.* It was, perhaps, the existence of this interesting anecdote, which induced an agricultural society in North-Carolina, in 1806, to petition Congress for the institution of a National Board of Agriculture. 'The bill for it was prepared, and was twice read, and met the general

* On the authority of Judge Peters.

support; and would have passed into a law, had the session continued three days longer.*

"From causes which it is not my present purpose to notice, agriculture has too long been deemed an art, the successful prosecution of which, needs not even an occasional scintillation from the altar of genius. Whatever may have been the origin of this unfortunate opinion, it is notorious, that the prejudices of education, and indisposition of man for hard labour, have practically confirmed the idea, engendered, perhaps, by ignorance and pride. 'Husbandry, in the general sense of the word,' says a learned lexicographer, 'comprehends the whole practice of agriculture; in which, we have to consider the nature of the soils we meet with, on and near the surface of the earth. The methods of correcting those which are unfavourable to the production of useful vegetables; the improvement of such as are deteriorated by over-cropping; such implements as are fittest for facilitating the operations of agriculture; the means and powers best adapted for such purposes; the cattle and live-stock most profitable to man, whether for labour, or more immediate use, as food; the grass, grain, roots, and pulse, most beneficial to him; and the minor subjects connected with this important science.' From this analytical solution of husbandry, it is apparent, that to its improvement, several of the most valuable sciences, such as chemistry, botany, mineralogy and zoology, owe their utility; and, that he who would seek for the mental treasures, disclosed by a *thorough* knowledge of its principles, must possess an intellectual power, which it is the lot of but few to enjoy, or to acquire.

"South-Carolina is emphatically an agricultural State. The prosperity and permanency of her domestic institutions are identified with its success. Her weight in the national councils, rests on its progressive amelioration. To encourage it, is a political duty, and as a substantial proof of your patronage, Legislators, introduce it into your College; direct the mind of the rising generation to it, and let every yeoman have it is his power to write in letters of gold, on the lintel of his door: *To South-Carolina I am indebted for the principles of my profession.* Had an effort been made to attain that end, the heart of many a parent would have been saved its agony; the tear of sorrow would less seldom have glis-

* From the unpublished Agricultural Correspondence of G. W. Jeffreys, of North-Carolina.—*See American Farmer*, No. 21, vol. ix. p. 161.

tened on the furrowed cheek of age. In this State, as, it is believed, in every other of the Union, the learned professions are over-stocked; arising from what may not unaptly be termed an hereditary academical pride, which inculcates the maxim, that the Temple of Fame, should rarely be opened to the follower of the plough. Under this delusive persuasion, hundreds of youth, are annually placed on the great theatre of life, to realize the mid-day dreams of an unsubstantial philosophy. The fame of the *literati* of antiquity, so obscure their mental vision, that although in the examination and study of history, their eyes may have rested on the unbending integrity of Fabricius; the patriotic devotedness of a Regulus, a Curius, and a Cincinnatus; and the virtues and piety of that distinguished agriculturist, Numa Pompilius; yet, their attention having been directed exclusively to the 'nobler sciences,' such examples are viewed, merely as a relief to the general picture, which the rude mind of the husbandman is supposed incapable of improving. To such considerations are referrible moral evils, of an alarmingly increasing character. In our towns and villages are many worthy young men, who from the want of employment in their vocation, and their unfitness for any other than the business which they were educated to discharge, have yielded to the baleful influence of inactivity and *ennui*. Such citizens untimately become mere drones in the hive of society. They not only add nothing to the productive means of the country, but by their habits, they corrupt the public morals, and weaken the force of virtuous impressions.

"There is one interesting view of this subject, to which I would now advert. I have already stated, that from the sickliness of the climate, the estates of the lower districts, in the summer season, are deprived of the supervision of their owners. In general, the planter entrusts the sole management of his domectic concerns, to some needy wanderer, who, without education, without morals, or the incentive to honourable emulation, assumes the mastership of a business, at once complicated in its details, and requiring the unwearied exercise of a sound discretion, to conduct it safely through the ordeal of its own peculiar composition. Oftentimes twenty or thirty incompetent overseers exercise an unlimited control over a whole district, comprising thousands of labourers. In their hands is truly for a time, the

whole fortune of their employers. Their ignorance cannot advance it: their indiscretion may forever blast it; and peradventure, shake the State to its centre.* If these considerations be insufficient to awaken us to a sense of the magnitude of our duty; if the present political aspect of our affairs is not enough to admonish us of the approach of the ides of March; if the necessity of adapting the education of our citizens to the stations which they respectively may wish to fill, be not clearly indicated by the ordinary principles of human nature, I am at a loss to conceive the motive which could tend to elevate to the rank of one of the most honourable and useful professions, the now humble and undignified vocation of the Overseer. Exercising in public esteem, a degrading function; hence, receiving but an inadequate compensation for his services; unaided by the moral power which education imparts, and, but seldom or never cheered by the avowed confidence of his employer, he moves and acts as though the prospect of temporal preferment were but the illusion of the brain.

"The necessary effect resulting from the contemplated professorship, provided the lectures on agriculture, be a component part of the students' collegiate course, will be a salutary change in the feelings and opinions of the students themselves, in relation to husbandry. The subject is intrinsically of a nature so facinating, that it requires to be but superficially understood, to induce even the prejudiced to search diligently for the inestimable learning it discloses. I care not what course of life the pupil may have determined to pursue, a knowledge of the elementary principles of agriculture, will contribute materially to his stock of that species of intellectual wealth, which can always be advantageously disbursed. It would be hazarding but little, to reflect, that there will, annually, leave college, numbers of youth, deeply imbued with a high sense of the rank and dignity of the profession of the husbandman. Their opinions, founded on reflection and study, must in time effect a highly beneficial reform in the sentiments of every calling in society. In penetrating the vista of futurity, with the mental vision of a weak and erring mortal, I behold, in anticipation, the attainment of the very end

* To the gloomy description here given of our Overseers, there are many and honourable exceptions; and I state with pride and pleasure, that as a class, they are gradually improving in morals, education and general worth.

which my best reflections lead me to infer will ensue from the system referred to. I allude to the establishment of Agricultural Schools.

"Fellow-Citizens!—they must sooner or later be identified with your schemes of policy—your best interests require it—your individual prosperity and the safety of your domestic institutions demand it—philanthropy and the fundamental principles of our own government invite your zealous co-operation in the enterprize. In Europe, where the double doctrine of Machiavel, is the main spring of every political action, and where the press reflects only the will of the monarch, it has long since been adjudged necessary and politic, to instruct the people in the theory of husbandry.—Whence this departure from a vital tenet of their government? Why so adventurous a project, when satisfied of the truth, that knowledge is power? A solution of the apparent enigma is to be found in the practical acknowledgment, that agriculture is the basis of national wealth. The first agricultural school in Europe, was founded at Milan, in 1770. It is not known what has been its fate. Schools are now established in Switzerland, Prussia, Italy, France, and the Austrian States.* The most celebrated, is that at Hofwyl, in Switzerland, erected by M. de Fellenberg, to improve '*the art and cultivation, and the Character of the cultivator.*' The best evidence of the success of that institution is, that its pupils are employed at high salaries in various parts of Europe, to superintend and direct the labours of agriculture. With such examples before us, fellow-citizens, we cannot much longer hesitate. 'It fills me with astonishment,' said Columella the Roman, 'that while those who wish to become orators, always have recourse to one as a teacher, whom they may take as a model—and those who learn music, dancing, or any other of the lighter and more frivolous accomplishments, employ, of course, a professed teacher—agriculture, that most important of all arts, has neither masters to teach it, nor pupils, who seek to be taught. Is there, then, nothing in it which requires to be studied? Is there nothing to reward research?' 'For myself,' he continues, when I take an enlarged view of this noblest of all pursuits, and survey it on all sides, and con-

* The only Agricultural School in the United States, is the Rensselaer School, at Troy, in New-York, alike distinguished for the originality of its conception, and its practical utility.

sider what it embraces, that it would be profitable to know, I fear that I shall see the end of my days, before I shall become a thorough master of all its mysteries.' In now-a-days, sowing, reaping, and the general process of cultivation, are viewed as mere mechanical operations, as easily ascomplished by the idiocy of the Hindoo, as by the skill and judgment of the experienced farmer; and in allusion to this State, the youthful planter is led to expect a fortune, without having been taught 'a single quality which can preserve or acquire one.' To the prevalence of such false and dangerous notions, poverty has been the lot of many, who, if nurtured in a school of agriculture, would have been active and efficient promoters of the public weal. In such an event, they would, at least, have added their contingent to the mass of productive industry."

PART III.

MISCELLANEOUS AGRICULTURAL ITEMS.

THE CATTLE MARKET.

A Correspondent writes to us to this effect, under date the 6th ult. "I am a member of ****** Society, and will with pleasure bring the subject of a live-stock market before it at its next meeting. What is the average price of butchers' meat in Charleston for any given time, say for last month? It is necessary for us to know this, for if our fellow-citizens dependant upon that market, are furnished with beef upon terms reasonable compared with those on which the butcher purchases from the countrymen, we have no right to interfere; but if the butchers' profits are unreasonable, then we have reason to complain."

We would distinctly state that our object is not to interfere with the fair and reasonable profit to which every citizen is entitled for the exercises of his faculties, or for his labour, mental or corporeal. A profit of this kind the butchers of Charleston deserve, and we hope will always receive *liberally*. It is not the custom

of Carolina planters to act on contracted or on niggardly principles, and we cannot possibly foresee in a public market and public slaughter house, any possible disadvantage to them in fair trade. But there are circumstances *out of the market* attending the sale of cattle, and others *in the market*, on which that sale depends, that have long called loudly for alteration. The former are sufficiently before the public to induce every man to learn from his neighbours and acquaintances the particular manner of carrying on this branch of what *ought to be* profitable husbandry. Whoever has tried it can, and no doubt will disclose the system pursued, and which has driven away, we would say, almost every public-spirited planter, who has tried to improve the breed of cattle and sheep, to the evident loss of *all countrymen*.

There is *in the market* of Charleston a custom of hiring out to a single butcher many stalls. We were told by a sufferer, that in one instance, as many as six have been retained by one person. Our informant stated also the effect of the measure to be this: that when a man of small capital began business and wished to attract custom by his small profits, he could be undersold by some adjoining stall *in every instance*, and as beginners have not generally capital to stand the contest, they are soon driven off, leaving the more powerful monopolist in full possession of the field, and of the better prices which immediately take place.—Thus purchasers of cattle are reduced in number in proportion to those driven off!

We would now state two circumstances that recently occurred in our own neighbourhood, and could give others of a similar kind, were more necessary.

A flock of sheep belonging to Capt. Hibben, was stolen from his plantation in Christ's Church Parish, and driven to a place on Wando River; from thence carried to town and sold to a black butcher at *one dollar per head*. In this flock, besides other valuable sheep, was a ram which cost the owner $45. By the vigilance of the Clerk of the market, Mr. Hoff, three sheep were saved from the knife of the butcher and restored to the owner, but as these sales and bargains took place *in private*, both the guilty parties escaped punishment.

The other instance occurred a few days ago to another neighbour of ours, who passing the market saw in a cart a calf with his ear mark. On inquiring into the circumstance he found Mr. Hoff again at his post: that he had stopt the stolen property to be claimed by the owner, who proved, in this instance, to be the very gentlemen in question. In instances of this kind the relative price of butchers' meat would be of little use to our Correspondent.

To show that these depredations are committed by wholesale, we shall place upon record the following patriotic effort to restrain

a crying evil. If it draws the attention of the police of Charleston to the Sunday market, to which stolen property is regularly brought in from the whole country round, and in *ruinous* quantities, great benefits may ensue—much more if it rouses the slumbering planter near town, to activity.

Some gentlemen owning plantations to the Southward of Charleston, determined on a plan to stop all the boats proceeding to town, through Ashley River, Wappoo and New Cut. Their object being to ascertain certain facts connected with these midnight operations. They accordingly selected a Saturday night as the most suitable time for the object intended, and were liberally supplied by Capt. Parker with a strong detachment of the city-guard.

The plan was so judiciously arranged and so well carried into execution, that they succeeded in stopping every boat. But the number of these was so great, and the negroes who ought to have been arrested and committed for want of passes, so very far exceeded their expectations, and all their means of securing them, that they were constrained to liberate them as fast as they were taken!

The stolen property seized and delivered to the guard-men as a compensation, was so great, that when sold it amounted to a handsome fee to each man, and the aggregate disclosed to what an extent this drain upon the resources of the planter, and on the country amounted to, when it is recollected, that this was the result of a *single* Saturday night, and that in every year there are *fifty-two* such nights! J. G.

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NEW COTTON GIN.

Mr. John Phillips exhibited to us last spring an improved roller Cotton Gin, of his invention, the advantages of which appeared to us to be considerable. We expected to have seen a public exhibition of it ere this time, but find that the inventor's sickness has prevented it. We, however, made the following notes, which may give an idea of some of the advantages of this fresh proof of native genius; and Mr. Philips writes us a few days ago, that he had nearly completed a foot gin on the same principle.

Memorandum.—"The advantages of Mr. Phillips' roller Cotton Gin are: in the barrel gin, the impelling power communicates remarkably well with the gins. Each gin can be thrown out or into gear easily, quickly, and safely. There is no crossing of bands or interference of parts of the work, in any way."

"The gin is perfectly simple in its construction, and Mr. Phillips has got rid of the *screw to keep down the gin rollers;* hence he gets rid of the heat and burning of the rollers, or *possibility of fire.*"

"In consequence of the heat being got rid of, an *iron roller* may be used with one wooden—or two iron rollers might be substituted, *if found to suit.*"

"The gin performed extremely well under great disadvantages. It had at the time one iron roller and a wooden one: the former of which after working an hour, was perfectly cool to the touch."

We hope when the Cotton-planters take into consideration the immense improvements made within a year in *Rice machinery*, that they will be induced to inquire whether the roller gin cannot be so improved as to go well by animal power. The advantage would be immense, leading, we think, to further improvements, and possibly to such as might enable *one hand to feed and attend to several gins!*

Why shall we be dependent on strangers and foreigners for these things? We surely have genius and talent amongst ourselves. J. G.

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The Kitchen Garden for November.

GENERAL OBSERVATIONS.

Fencing—The foundation of a permanent fence of great utility is easily laid in this or the ensuing months, by sowing the Tallow-berry either on the bank or alongside of any garden fence, pasture-field, &c. The Tallow Tree is the most difficult to kill after it has sent down its tap-root, of any tree we know. The root penetrates to a great depth, without deranging banks or dams, and is peculiarly well suited for fencing, as it bears slashing or even cutting close to the earth without injury; it also answers well for planting on the edges of roads, causeways, &c. to keep up the earth. If planted as a garden fence, it may either be used for posts at six or eight feet apart, or it may be planted so thick as nearly to become impenetrable to rabbits, if cut down to the root, and thus made to *tiller.* When grown to the size of a man's arm, it may be cut half through with a saw, at the height wanted, and laid down horizontally to serve for rails to keep out horses and cattle. By annually repeating this mode of treating the hedge, *interlocking* at the same time, the stems as they are bent down, and especially with the aid of the multiflora, or nondescript, *on a bank*, a safe and permanent hedge may be kept up with little labour or expense. Water the seeds well, if planted in dry weather on the bank.*

* Mr. A. Jones (vol. i. p. 306,) will find the Pride of China (as we call it, Pride of India,) very unsuitable for fencing, as it has only superficial roots. If the Tallow Tree is cut down to force the stump to put out *many stems*, we believe rails may be conveniently inserted amongst them; in this case, eight feet apart is the best distance to plant the seeds.

Garden Walks.—The dull appearance of gardens at this season of the year is much enlivened by a line of oats sown thin at each edge of the walks. The oats must be planted rather deeper than for a crop, to prevent the birds drawing them up. This is best done by chopping straight by the line, with a spade, about two inches deep. The earth remaining hard, retains the grain firmly, when pressed down with the foot, and permits it to grow again, even if the young sprouts are pulled off by the sparrows. The line of oats must be sown straight and precisely at the outer edge of the walk, covered at first with pine trash, and kept as short as possible, by frequent cutting, until the spring, when it requires to be hoed out.

☞ *In this month,*

Sow, Peas, Spinach, Radishes, and small Salading. *Plant* early Beans, Cabbages, Onions, Lettuce, Potatoes. *Dress* Artichokes and Asparagus, *if not previously done.*

Such of the business in the garden as was neglected last month, ought to be executed in this as soon as possible, agreeably to the directions given in last numbers. If the weather continues mild, and the seeds are covered carefully with pine trash, many will yet thrive. Where seeds are saved at home, every effort ought to be made to have early spring vegetables, as the frequent sowing is attended with little labour and no expense, and may be repeated once a fortnight on the same beds, until success attends the operation. On this principle,

Sow Peas,

Towards the middle, and again at the latter end of this month, to take the chance of an early crop. Even if they are cut down they will sprout again, and *may succeed*, unless injured when very young, or in pods.

Spinach, *Radishes*, &c. (See September and October.)

Early Beans.

At the middle or towards latter end of this month, plant some early Beans. Those which are now planted will come in early in the spring. The Mazagan comes in the earliest, is a great bearer, and a good Bean for the table while young; but the small Spanish, broad Spanish, or long podded Beans, will afford a further supply in succession. A warm situation ought to be chosen to the South of a wall or fence, and the rows ought to be two or two feet and a half apart. Drill and place the Beans three inches apart, and an inch and a half or two inches deep. These Beans may even be planted very thick and close together, with the view of transplanting them towards the spring, and of preserving them from the frost. This is easily done by sticking or planting sprigs

of pine, or other bushes, on each side of the rows, sufficiently close to cover and protect the young plants in cold frosty weather, but be sure to remove them as soon as the weather will permit.

Cabbages and Onions.

The planting out of both of these ought not longer to be deferred. If already done, by frequently chopping the earth between and around them, with care, their growth will be greatly promoted.

Blanching Endive.

Chose a dry day to do this work, and if any plants are large and full-hearted, gather up the leaves regularly in the hand; tie them together with a band of moss or soft twigs, a little above the middle. This band must not be too tight, and ought to be occasionally inspected and loosened, if necessary.

Lettuce.

If any of the Lettuce-plants are well grown, let them be also tied up to Cabbage. This is done by collecting all the leaves, and surrounding them with a light band of moss, tied at first very loosely towards the top, and slackened as the plant increases in size.

Irish Potatoes

Ought to have earth hauled up to cover them well from the frost, if the shoots are above ground. Even if the shoots are cut down by the frost, they will put out again and again, and finally blossom in the spring. J. G.